

NASA TECH BRIEF

Ames Research Center

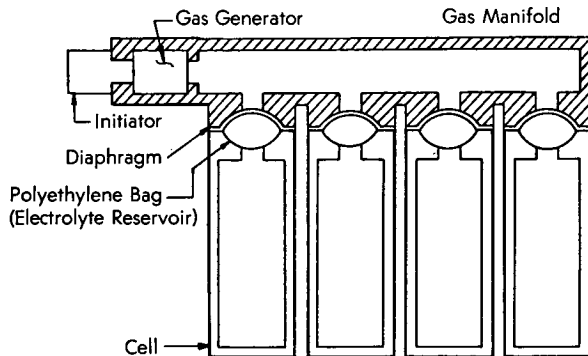


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Battery Activation System

The problem:

To design a pyrotechnically-activated battery which cannot be quickly discharged by current conduction paths in a common gas manifold.



The solution:

Supply electrolyte to each cell from separate containers.

How it's done:

The electrolyte distribution arrangement in the improved battery is shown in the diagram. An initiator is fired to set off the gas generator; the gas flows into a manifold and as the gas pressure in-

creases, chlorotrifluoroethylene diaphragms transfer the force to polyethylene bags filled with electrolyte. At peak manifold pressure, the small membrane at the base of each polyethylene bag is ruptured, allowing electrolyte to flow into the cells. Because no wet path is available for conduction between cells, the activated battery is not self-discharged.

Notes:

1. Material thickness and chamber volumes must be carefully selected for reliable operations.
2. No additional documentation is available. Specific questions, however, may be directed to:

Technology Utilization Officer
Ames Research Center
Moffett Field, California 94035
Reference: B74-10056

Patent status:

NASA has decided not to apply for a patent.

Source: Charles Sollo, David L. Smith,
and Vernon P. King of
McDonnell Douglas Corporation
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Ames Research Center
(ARC-10832)